This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Previously Presented) A method for disrupting expression of a mammalian target gene at the mRNA level in a human cell, wherein the method comprises initiating RNA interference (RNAi) *in vitro* by exposing the human cell to a double-stranded RNA (dsRNA) homologous to the target gene, wherein the dsRNA consists essentially of two complementary linearized strands of RNA, the transcription of each is independently controlled to generate paired RNAs of defined length.

2. (Previously Presented) The method of claim 1, wherein the human cell is from a cell line.

3-4. Cancelled.

5. (Previously Presented) The method of claim 1, wherein the function of the target gene is disrupted.

6. Cancelled.

7. (Currently Amended) The method of claim ~~1~~28, wherein the human cell is a ~~melanoma, leukemia,~~ tumor, or a transformed cell.

8. (Currently Amended) The method of claim 7, wherein the ~~tumor~~ cell is malignant.

9. (Previously Presented) The method of claim 1, comprising formulating the double stranded RNA as part of a pharmaceutical composition.

10. Cancelled.

11. (Previously Presented) The method of claim 9, wherein the pharmaceutical composition comprising the dsRNA targets a human disease in the human cell.

12-20. Cancelled.

21. (Currently Amended) The method of claim 11, wherein the human disease targeted ~~by the RNAi in the method~~ is cancer.

22. (Currently Amended) A method for disrupting expression of a mammalian target gene *in vitro* ~~at the mRNA level~~ in a human cell, wherein the method comprises providing ~~small interfering~~ an RNA ~~guide sequences~~ sequence ~~which are~~ homologous to a portion of the target gene, ~~such that~~ said RNA capable of inducing RNAi of the target gene ~~is induced~~.

23. (Currently Amended) The method of claim 22, wherein the ~~method further comprises providing to the human cell~~ target gene is c-kit and the RNA is ~~an effective amount of~~ KdsRNA ~~as the interfering RNA guide sequence~~ in an amount effective to ~~initiate~~ induce RNA interference, thereby ~~effecting disruption of gene~~ disrupting expression of ~~KitR when it is~~ the target gene ~~in the cell~~.

24. (Previously Presented) The method of claim 22, wherein the human cell resides within a population of melanoma, leukemia, tumor or transformed cells.

25. (Previously Presented) The method of claim 24, wherein the cell is malignant.

26. (Previously Presented) The method of claim 22, comprising formulating the interfering RNA as part of a pharmaceutical formulation.

27. (Previously Presented) The method of claim 26, wherein the pharmaceutical composition comprising the dsRNA targets a human disease or disorders in the human cell.

28. (New) A method for disrupting expression of a target gene in a human cell, the method comprising the steps of:

(a) selecting a human cell expressing the target gene;

(b) preparing a double-stranded RNA (dsRNA) consisting essentially of a first strand homologous to the target gene, and a second strand complementary to the first strand;

(c) exposing the human cell to the dsRNA in a reaction mixture *in vitro*, under conditions permitting the dsRNA to enter the cell; and

(d) incubating the reaction mixture for a time sufficient to allow the initiation of RNA interference,

thereby disrupting the expression of the target gene.

29. (New) The method of claim 28, further comprising the additional steps of

(e) measuring the expression of the target gene in the exposed cell;

(f) comparing the expression of the target gene in the exposed cell to that of a control cell that was not exposed to the dsRNA,

wherein a decrease in expression of the target gene in the exposed cell relative to that of the control is indicative of disruption of the expression of the target gene.

30. (New) The method of claim 28 wherein the dsRNA has a length less than about 830 bp.

31. (New) The method of claim 30 wherein the dsRNA is generated using *in vitro* transcription.

32. (New) The method of claim 28 wherein the incubating step is about 3 days.

33. (New) The method of claim 29 wherein the measuring step encompasses measuring the amount of a protein encoded by the target gene, measuring a function of a protein encoded by the target gene, or measuring the amount of mRNA corresponding to the target gene.

34. (New) The method of claim 28 wherein the exposing step uses about 150 to 350 μg of dsRNA for each milliliter of reaction mixture.

35. (New) The method of claim 28 wherein the cell is an HL-60 cell or a CHP 100 neuroepithelioma.

36. (New) The method of claim 28 wherein the target gene is c-kit.

37. (New) The method of claim 36 wherein the dsRNA is KdsRNA.

38. (New) The method of claim 7 wherein the cell is a melanoma cell or a leukemia cell.